LATE REVISIONS
LINCOLN CENTER ENVIRONMENTAL REMEDIATION TRUST
GROUNDWATER TREATMENT SYSTEM
SAN JOAQUIN COUNTY
NPDES Permit Renewal (NPDES No. CA0084255)
Regional Water Quality Control Board, Central Valley Region
Board Meeting – 4 August 2011
ITEM # 8

Changes to Proposed NPDES Permit Renewal

1. **NPDES Permit, Finding M. Stringency of Requirements for Individual Pollutants.** Modify Finding M, paragraph 1, sentence 3 as shown in underline/strikeout format below:

   The WQBELs consist of restrictions on ammonia, arsenic, barium, chromium VI, 1,2-dichloroethane~~, 1,1-dichloroethylene~~, electrical conductivity, lead, mercury and pH.

2. **NPDES Table 6. Final Effluent Limitations.** Modify Table 6, including footnotes, as shown in underline/strikeout format below:

Table 6. Final Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Priority Pollutants					
Arsenic, Total Recoverable	µg/L	--	23	--	--
Chromium VI, Total Recoverable	µg/L	7.8	16	--	--
1,2-Dichloroethane	µg/L	0.38	--	--	--
~~1,1-Dichloroethylene~~	~~µg/L~~	~~0.057~~	~~0.11~~	~~--~~	~~--~~
Lead, Total Recoverable	µg/L	11	22	--	--
Mercury, Total Recoverable	µg/L	0.050	0.10	--	--
	lbs/day[1]	0.00018	0.00036	--	--
Non-Conventional Pollutants					
Ammonia Nitrogen, Total (as N)	mg/L	0.72	2.1	--	--
	lbs/day[1]	2.6	7.5	--	--
Barium, Total Recoverable	µg/L	--	415	--	--
Electrical Conductivity @ 25°C	µmhos/cm	900	--	--	--
Total Petroleum Hydrocarbons (Gasoline Range)	µg/L	--	50	--	--
Volatile Organic Compounds[2]	µg/L	--	0.5	--	--

[1] Mass-based effluent limitations are based on a permitted average daily discharge flow of 0.43 MGD.

[2] Includes all VOCs identified as constituents of concern in influent groundwater, including: benzene, 1,2-dichloroethane, 1,1-dichloroethylene, ethylbenzene, methyl tertiary butyl ether, tetrachloroethylene, toluene, trichloroethylene, cis-1,2-dichloroethylene, and xylenes. Note, ~~more stringent~~ average monthly effluent limitations also apply to 1,2-Dichoroethane ~~and 1,2-Dichloroethylene~~.

3. **NPDES Permit, Section VII. COMPLIANCE DETERMINATION, C. Volatile Organic Compounds (VOCs) Maximum Daily Effluent Limitation (Section IV.A.1.a).** Modify Finding C, as shown in underline/strikeout format below:

   C. Volatile Organic Compounds (VOCs) Maximum Daily Effluent Limitation (Section IV.A.1.a). VOCs include all all VOCs identified as constituents of concern in influent groundwater, including: benzene, 1,1-dichloroethylene, 1,2-dichloroethane, ethylbenzene, methyl tertiary butyl ether, tetrachloroethylene, toluene, trichloroethylene, cis-1,2-dichloroethylene, and xylenes. The maximum daily effluent limitation of 0.5 µg/L applies to each VOC. Note, ~~more stringent~~ average monthly water quality-based effluent limitations also apply to 1,2-dichloroethane ~~and 1,1-dichloroethylene~~.

4. **NPDES Permit, Attachment F, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, B. Technology-Based Effluent Limitations, Table F-3. Summary of Technology-based Effluent Limitations (Attachment F).** Modify Table F-3 footnotes, as shown in underline/strikeout format below:

Table F-3. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	--	0.43	--	--
Non-Priority Pollutants					
Total Petroleum Hydrocarbons (Gasoline Range)	µg/L	--	50	--	--
Volatile Organic Compounds[1]	µg/L	--	0.5	--	--

[1] This effluent limitation applies to VOCs identified as constituents of concern in influent groundwater, including: benzene, 1,1-dichloroethylene, 1,2-dichloroethane, ethylbenzene, methyl tertiary butyl ether, tetrachloroethylene, toluene, trichloroethylene, cis-1,2-dichloroethylene, and xylenes. Note, ~~more stringent~~ average monthly water quality-based effluent limitations also apply to 1,2-dichloroethane ~~and 1,1-dichloroethylene~~.

5. **NPDES Permit, Attachment F, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, C. Water Quality-Based Effluent Limitations (WQBELs), 3. Determining the Need for WQBELs, b. Constituents with No Reasonable Potential.** Add new subsection vi. for 1,2-Dichloroethane, as shown in underline/strikeout format below:

   vi. 1,2-Dichloroethane. 1,2-Dichloroethane has not been detected in the effluent, therefore, based on the SIP the discharge does not have reasonable potential to cause or contribute to an exceedance of a water quality objective and WQBELs are not required. However, Order No. R5-2005-0144-01 identified 1,2-dichloroethane as a constituent of concern in the influent groundwater and established a water quality-based average monthly effluent limit (AMEL) of 0.38 µg/L based on the CTR criterion. The

AMEL has been carried forward from the previous Order to satisfy federal Antibacksliding requirements.

6. **NPDES Permit, Attachment F, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, C. Water Quality-Based Effluent Limitations (WQBELs), 3. Determining the Need for WQBELs, c. Constituents with Reasonable Potential.** Modify as shown in underline/strikeout format below:

   c. Constituents with Reasonable Potential. The Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, arsenic, barium, ~~benzene,~~ chromium VI, ~~cis-1,2-dichloroethylene, 1,2-dichloroethane, 1,1-dichloroethylene,~~ electrical conductivity, ~~ethylbenzene,~~ lead, mercury, ~~methyl tertiary butyl ether~~, and pH~~., tetrachloroethylene, toluene, total petroleum hydrocarbons (gasoline range), trichloroethylene, and xylene.~~ WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

7. **NPDES Permit, Attachment F, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, C. Water Quality-Based Effluent Limitations (WQBELs), 3. Determining the Need for WQBELs, c. Constituents with Reasonable Potential.** Delete subsections iv, vi, vii, viii., ix, xii, xv, xvi, xvii, xviii, and xix for Benzene, Cis-1,2-Dichloroethylene, 1,2-Dichloroethane, 1,1-Dichloroethylene, Ethylbenzene, Methyl Tertiary Butyl Ether, Tetrachloroethylene, Toluene, Total Petroleum Hydrocarbons (Gasoline Range), Trichloroethylene ,and Xylene, respectively, and renumber remaining subsections.

8. **NPDES Permit, Attachment F, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, C. Water Quality-Based Effluent Limitations (WQBELs), 4. WQBEL Calculations.** Modify the first paragraph, as shown in underline/strikeout format below:

   a. This Order includes WQBELs for ammonia, arsenic, barium, benzene, chromium VI, 1,2-dichloroethane (AMEL only)~~, 1,1-dichloroethylene~~, electrical conductivity, lead, mercury, and pH. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

9. **NPDES Permit, Attachment F, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, D. Final Effluent Limitations, Table F-10 Summary of Final Effluent Limitations.** Modify Table F-10, including footnotes, as shown in underline/strikeout format below:

Table F-10. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	--	0.43	--	--	DC
Conventional Pollutants						
pH	standard units	--	--	6.5	8.5	BP
Priority Pollutants						
Arsenic, Total Recoverable	µg/L	--	23	--	--	PB
Chromium VI, Total Recoverable	µg/L	7.8	16	--	--	CTR
1,2-Dichloroethane	µg/L	0.38	--	--	--	CTR
~~1,1-Dichloroethylene~~	~~µg/L~~	~~0.057~~	~~0.11~~	~~--~~	~~--~~	~~CTR~~
Lead, Total Recoverable	µg/L	11	22	--	--	CTR
Mercury, Total Recoverable	µg/L	0.050	0.10	--	--	CTR
	lbs/day	0.00018	0.00036	--	--	
	lbs/year	0.0014[2]	--	--	--	PB
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)	mg/L	0.72	2.1	--	--	NAWQC
	lbs/day	2.6	7.5	--	--	
Barium, Total Recoverable	µg/L	--	415	--	--	PB
Electrical Conductivity @ 25°C	µmhos/cm	900	--	--	--	MCL
Total Petroleum Hydrocarbons (Gasoline Range)	µg/L	--	50	--	--	ML
Volatile Organic Compounds[3]	µg/L	--	0.5	--	--	ML

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	

[1] DC – Based on the design capacity of the Facility.
BP – Based on water quality objectives contained in the Basin Plan.
PB – Based on the performance of the treatment system.
ML - Based on the technical capability of the groundwater treatment system to dependably remove the groundwater contaminants to concentrations that are non-detectable by current analytical technology.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.

[2] The total annual mass discharge of total mercury shall not exceed 0.0014 lbs.

[3] Includes all VOCs identified as constituents of concern in influent groundwater, including: benzene, 1,1-dichloroethylene, 1,2-dichloroethane, ethylbenzene, methyl tertiary butyl ether, tetrachloroethylene, toluene, trichloroethylene, cis-1,2-dichloroethylene, and xylenes. Note, ~~more stringent~~average monthly water quality-based effluent limitations also apply to 1,2-dichloroethane~~ and 1,1-dichloroethylene~~.

10. **NPDES Permit, IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, D. Final Effluent Limitations, 5. Stringency of Requirements for Individual Pollutants (Attachment F).** Modify first paragraph as shown in underline/strikeout format below:

> This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on total petroleum hydrocarbons (gasoline range) and VOCs. The WQBELs consist of restrictions on ammonia, arsenic, barium, chromium VI, 1,2-dichloroethane~~, 1,1-dichlorothylene~~, electrical conductivity, lead, mercury and pH. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

11. **NPDES Permit, Attachment F, Section VIII. PUBLIC PARTICIPATION.** Modify Sections A and B as shown in underline/strikeout format below:

A. Notification of Interested Parties

> The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. ~~Notification was provided through the following **[Describe Notification Process (e.g., newspaper name and date)]**~~

B. Written Comments

> The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on ~~<DATE>~~**24 June 2011**.

12. **NPDES Permit, ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS.** Modify the portion of Attachment G as shown in underline/strikeout format below:

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Benzene	µg/L	<0.058	NA	1.0	--	--	1.2	71	--	1.0	No~~Yes~~ [5]
cis-1,2-Dichloroethylene	µg/L	0.8	NA	6.0	--	--	--	--	--	6.0	No~~Yes~~ [5]
1,2-Dichloroethane	µg/L	<0.041	NA	0.38	--	--	0.38	99	--	0.5	No~~Yes~~[5]
1,1-Dichloroethylene	µg/L	<0.074	NA	0.057	--	--	0.057	3.2	--	6	No~~Yes~~[5]
Ethylbenzene	µg/L	<0.04	NA	300	--	--	3,100	29,000	--	300	No~~Yes~~[5]
Methyl Tertiary Butyl Ether	µg/L	<0.54	NA	5	--	--	--	--	--	5.0	No~~Yes~~[5]
Tetrachloroethylene	µg/L	0.53	NA	0.8	--	--	0.8	8.85	--	5.0	No~~Yes~~[5]
Toluene	µg/L	<0.017	NA	150	--	--	6,800	200,000	--	150	No~~Yes~~[5]
Total Petroleum Hydrocarbons (Gasoline Range)	µg/L	<10	NA	100[10]	--	--	--	--	--	--	No~~Yes~~[5]
Trichloroethylene	µg/L	<0.041	NA	2.7	--	--	2.7	81	--	5.0	No~~Yes~~[5]
Xylene	µg/L	<0.04	NA	1,750	--	--	--	--	--	1,750	No~~Yes~~[5]

13. **NPDES Permit, ATTACHMENT H – CALCULATION OF WQBELS.** Modify portions of Attachment H as shown in underline/strikeout format below:

ATTACHMENT H – CALCULATION OF WQBELS

Parameter	Units	Most Stringent Criteria			HH Calculations[1]			Aquatic Life Calculations[1]											Final Effluent Limitations	
		HH	CMC	CCC	ECA_{HH} = $AMEL_{HH}$	AMEL/MMDEL Multiplier$_{HH}$	$MDEL_{HH}$	ECA_{acute}	ECA Multiplier$_{acute}$	LTA_{acute}	$ECA_{chronic}$	ECA Multiplier$_{chronic}$	$LTA_{chronic}$	Lowest LTA	AMEL Multiplier$_{95}$	$AMEL_{AL}$	MDEL Multiplier$_{99}$	$MDEL_{AL}$	Lowest AMEL	Lowest MDEL
~~1,1-Dichloroethylene~~	~~µg/L~~	~~0.057~~	~~--~~	~~--~~	~~0.057~~	~~2.01~~	~~0.11~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~0.057~~	~~0.11~~
~~Tetrachloroethylene~~	~~µg/L~~	~~0.8~~	~~--~~	~~--~~	~~0.8~~	~~2.01~~	~~1.6~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~0.80~~[5]	~~1.6~~[5]
~~Trichloroethylene~~	~~µg/L~~	~~2.7~~	~~--~~	~~--~~	~~2.7~~	~~2.01~~	~~5.4~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~2.7~~[5]	~~5.4~~[5]

[1] As described in section IV.C.2.d of the Fact Sheet (Attachment F), calculation of effluent limitations for the protection of human health and aquatic life are determined without the allowance of dilution credits, except for arsenic and barium.

[2] ECA determined using a dilution credit of 3.0 and a maximum background concentration of 2.5 µg/L.

[3] Final performance-based effluent limitations established, as discussed in section IV.C.3.c of the Fact Sheet (Attachment F).

[4] ECA determined using a dilution credit of 8.3 and a maximum background concentration of 48 µg/L.

[5] ~~As described in section IV.C.3.c of the Fact Sheet (Attachment F), the~~The final effluent limitation is based on the more stringent technology-based effluent limitation discussed in section IV.B.2 of the Fact Sheet (Attachment F).

14. **Buff Sheet, Issues Section.** Modify as shown in underline/strikeout format below:

ISSUES: The Central Valley Water Board office received public comments from the Discharger. The Discharger is contesting ~~a~~ more stringent proposed water quality-based effluent limits for 1,1 dichloroethylene (1,1-DCE), which were based on influent data. The Discharger contends that since there have been no detections in the effluent there is no reasonable potential and WQBELs are not required. The Central Valley Water Board staff, after further review of the effluent data, agrees there is no reasonable potential for the effluent to cause or contribute to an instream exceedance of the California Toxics Rule (CTR) human health criterion for 1,1-DCE and WQBELs are not required. A late revision is proposed to remove the WQBELs for 1,1-DCE and regulate the discharge consistent with the previous Order as a technology-based effluent limit of 0.5 µg/L as a daily maximum.

~~The existing permit includes a technology-based effluent limitation for 1,1-DCE of 0.5 µg/L as a daily maximum. However, based on data submitted with the Report of Waste Discharge, it has been determined that the discharge has reasonable potential to cause or contribute to an instream exceedance of the California Toxics Rule (CTR) human health criterion for 1,1-DCE of 0.057 µg/L. Therefore, in accordance with Section 1.3 of the State Implementation Policy, new, more stringent, water quality-based effluent limits are included in the proposed Order of 0.057 µg/L and 0.11 µg/L, as a monthly average and daily maximum, respectively. The Discharger contends there is no reasonable potential and is requesting the Central Valley Water Board revert back to using the less stringent technology-based effluent limit.~~

~~Central Valley Water Board staff does not concur. Although 1,1-DCE has not been detected in the effluent, 1,1-DCE was detected twice in the influent to the ground water treatment system in 37 monthly samples collected between July 2007 and June 2010, demonstrating reasonable potential to exceed the CTR human health criterion. In addition, 1,1-DCE is one of the constituents of concern in the groundwater. Therefore, the finding of reasonable potential and the establishment of the more stringent water quality-based effluent limitations is reasonable and necessary.~~

~~The Discharger is concerned that the more stringent limits for 1,1-DCE could result in violations if the concentrations of this constituent increase in the groundwater. However, as the Discharger indicated in its evaluation of the treatment system to meet the more stringent limits, the system in its current configuration is unlikely to exceed the proposed 1,1-DCE effluent limits and therefore the Discharger has not requested a compliance schedule. No changes are proposed to the Order.~~